3200

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model 3200

Stereo Control Console

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 3200 Stereo Control Console.

Servicing information and voltage data included in this manual are intended for use by knowledgeable and experienced personnel only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of circuitry operation.

The parts list furnishes complete ordering information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

1. P.W. BOARD

As can be seen from the circuit diagram, the chassis of Model 3200 consists of following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Phono Amp. . . . . mounted on P.W. Board, P400
2. Pre & Tone Amp. . . . . mounted on P.W. Board, PE00
3. Output Amp. & Relay Circuit . . . . . mounted on P.W. Board, PJ00
4. Power Supply . . . . . mounted on P.W. Board, P800
5. Speaker Switch & Loudness . . . . . mounted on P.W. Board, PS00
6. Tape Monitor & High Filter . . . . . mounted on P.W. Board, PT00

2. ALIGNMENT PROCEDURES

1. Set the VOLUME control at maximum, and also BASS, MID, TREBLE and BALANCE Controls at mechanical center position.
2. Connect 47KΩ dummy load resistor to each R and L channel on PRE OUT Jacks of the unit.

ITEM	SIGNAL APPLICATION	INDICATOR CONNECTION	ADJUSTMENT POINT	HOW TO ADJUST
POWER SUPPLY VOLTAGE ADJUSTMENT	–	J806	R805	75V DC AT J806
CHECK OF THE TECHNICAL SPEC.	PHONO, AUX, TAPE	TAPE OUT, PRE OUT	–	–

3. TEST EQUIPMENT REQUIRED FOR SERVICING

Item	Manufacturer and Model No. (or equivalent)	Function
Distortion Analyzer	Hewlett Packard, Model 331A or 333A	Measures distortion and voltage of amplifier output.
Audio Oscillator	Weston Model CVO-100P (NOTE: Less than 0.02 percent residual distortion is required.)	Sinewave and squarewave signal source.
Oscilloscope	Tektronix, Model 503; Data, Model 555	Waveform analysis and troubleshooting.
VTVM	RCA Senior Volt-Ohmyst, Model WV-98C	Voltage and resistance measurements.
AC Wattmeter	Simpson, Model 390	Monitors primary power consumption of amplifier.
AC Ammeter (0 to 10 amps)	Commercial Grade	Monitors amplifier output under short circuit condition.
Line Voltmeter (0 to 150 vac)	Commercial Grade	Monitors potential of primary power to amplifier.
Variable Autotransformer (0 to 140 vac, 10 amps)	Powerstat, Model 116B	Adjusts level of primary power to amplifier.
Shorting Plug	Use phono plug with 600 ohms across center pin and shell.	Shorts amplifier input to eliminate noise pickup.
Power Supply Bleeder Resistor (10 ohms at 1W)	Commercial Grade	Discharges power supply filter capacitors prior to disassembly or resistance measurements.

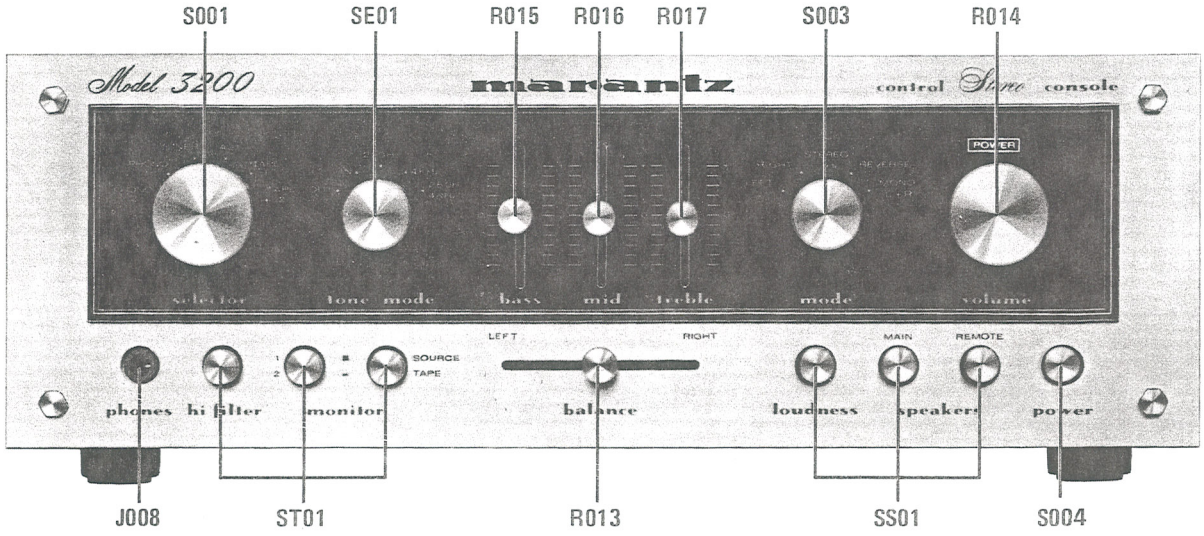

Figure 1. Front Panel Switches and Component Locations

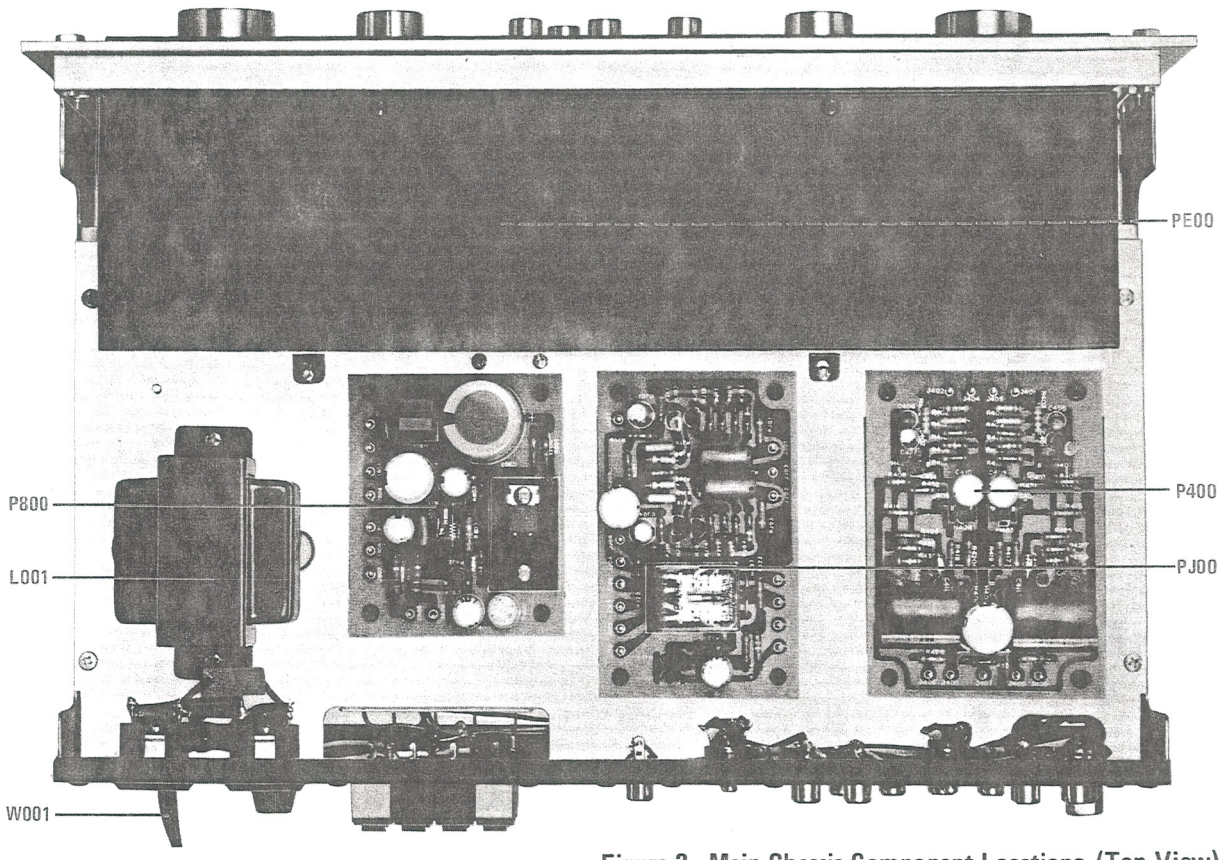

Figure 2. Main Chassis Component Locations (Top View)

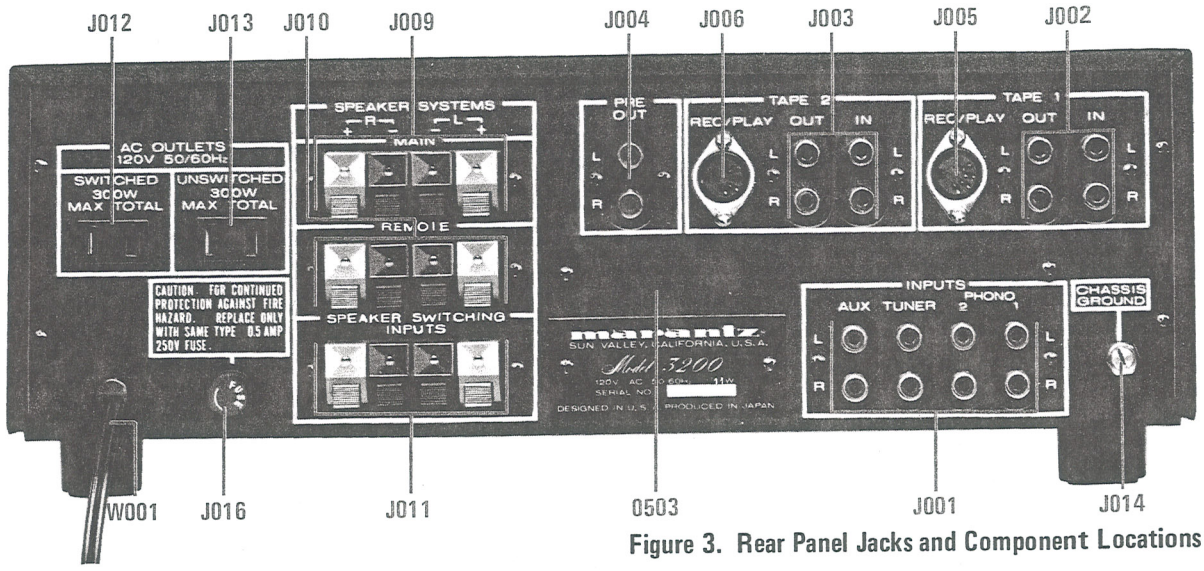

Figure 3. Rear Panel Jacks and Component Locations

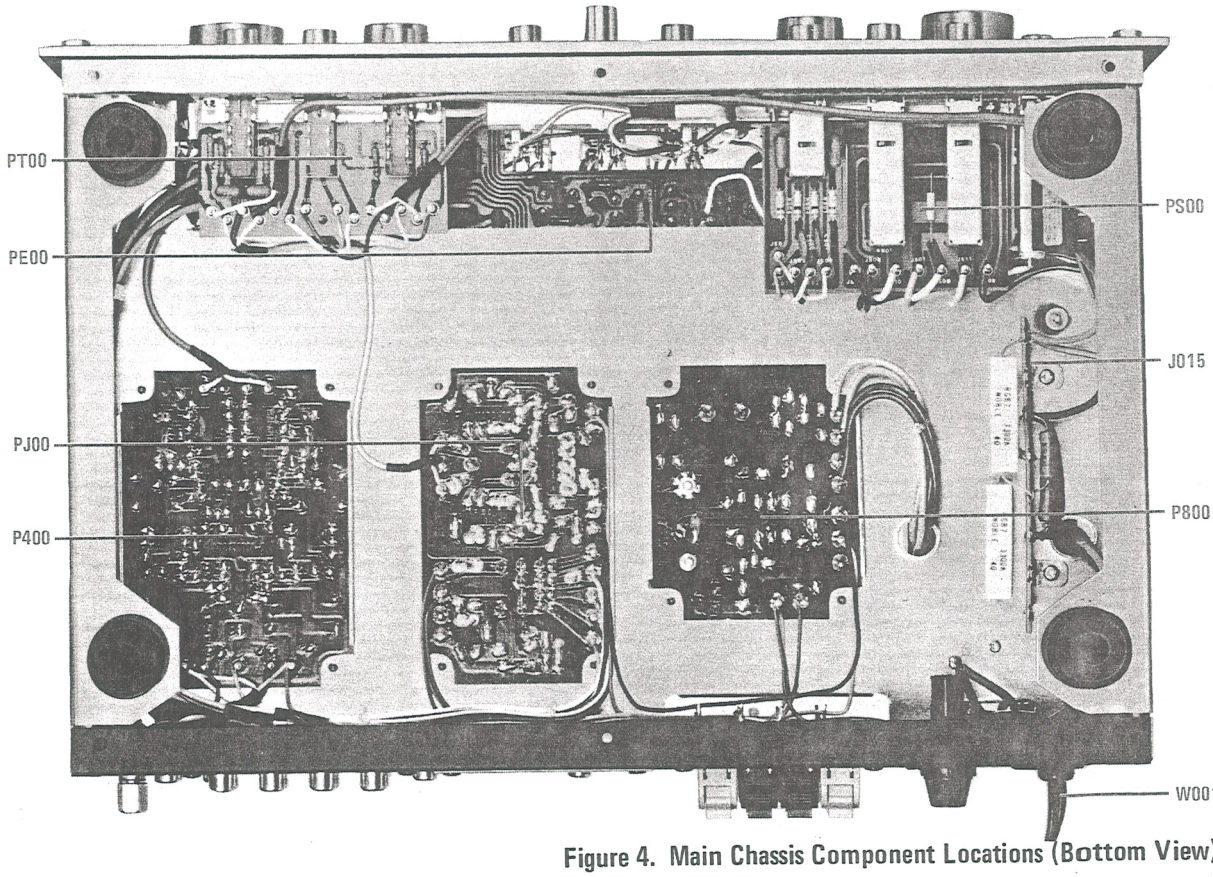

Figure 4. Main Chassis Component Locations (Bottom View)

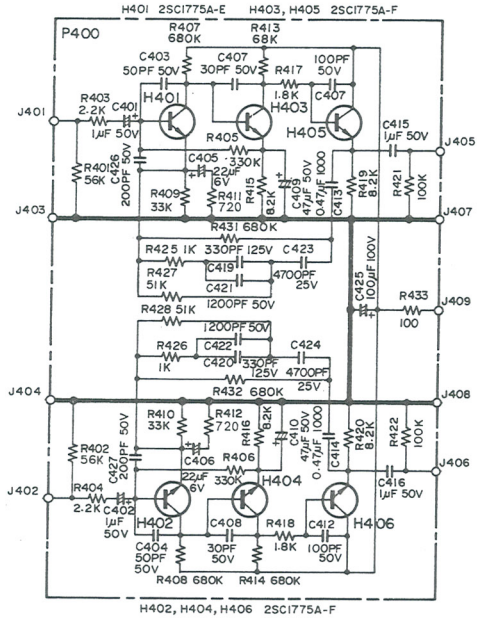

Figure 5. P400-Circuit Diagram

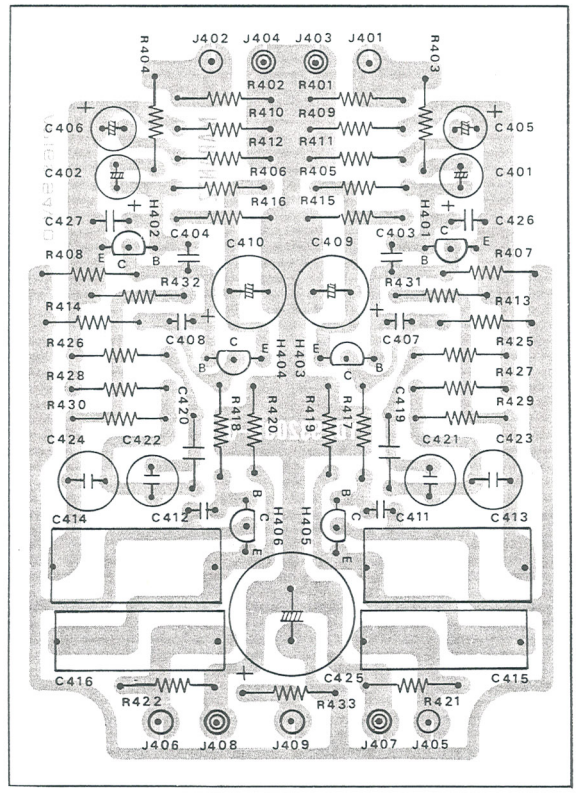

Figure 6. Phono Amp. Assembly P400 Component Locations

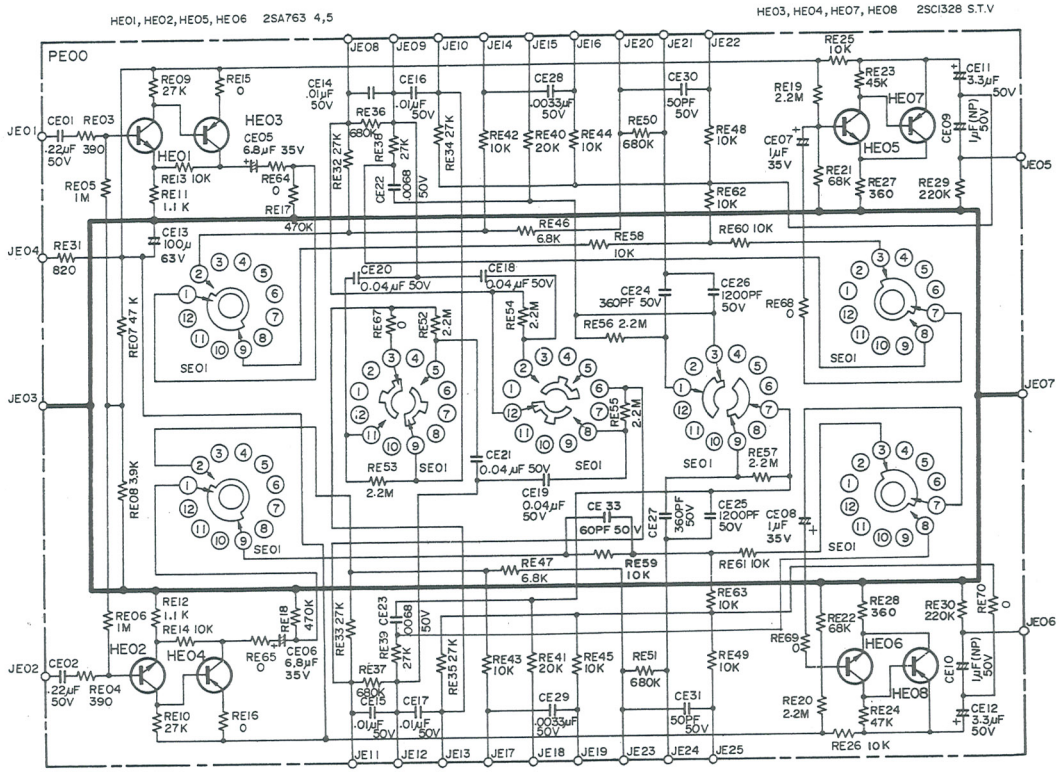

Figure 7. PE00-Circuit Diagram

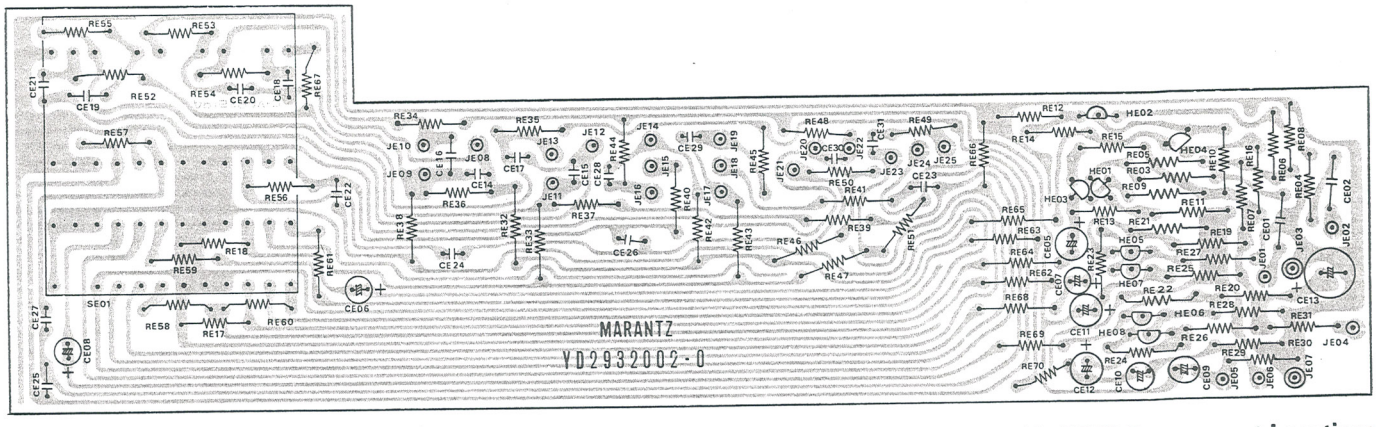

Figure 8. Pre and Tone Amp. Assembly PE00 Component Locations

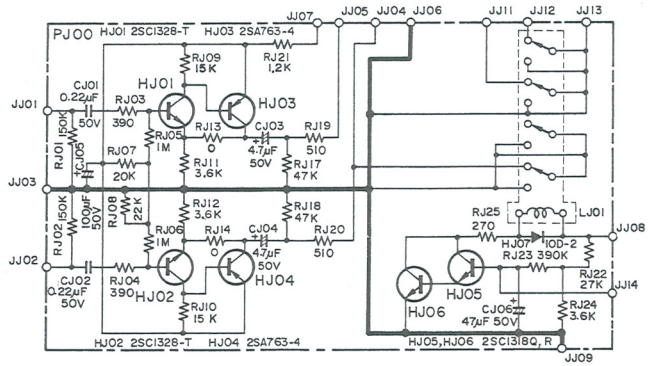

Figure 9. PJ00-Circuit Diagram

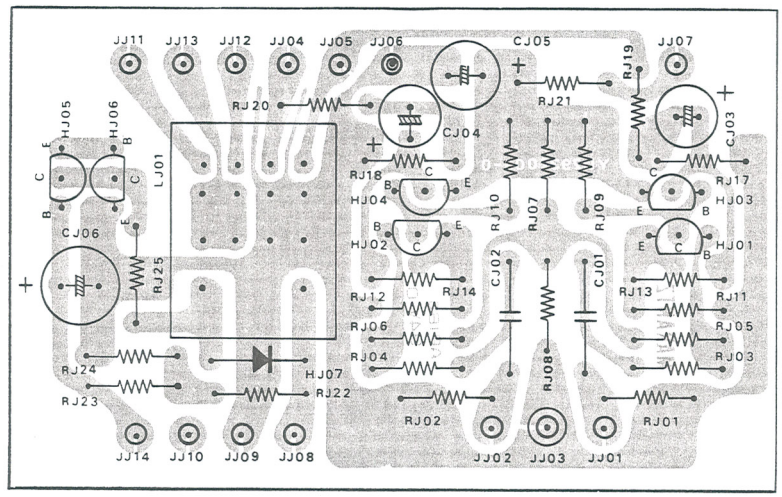

Figure 10. Output Amp. and Relay Circuit Assembly PJ00 Component Locations

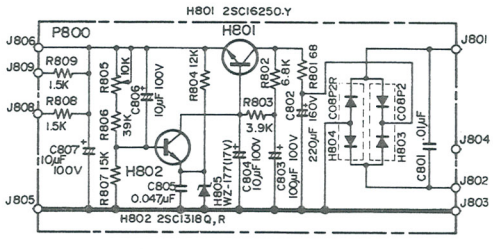

Figure 11. P800-Circuit Diagram

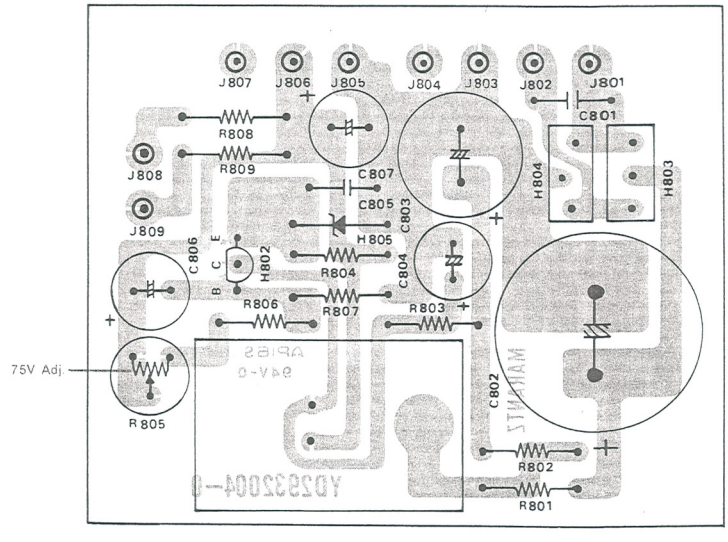

Figure 12. Power Supply Assembly P800 Component Locations

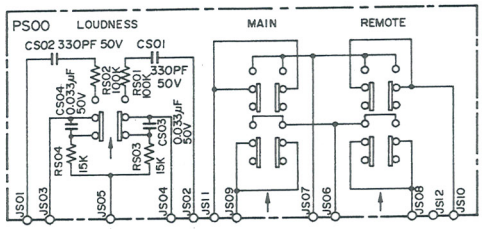

Figure 13. PS00-Circuit Diagram

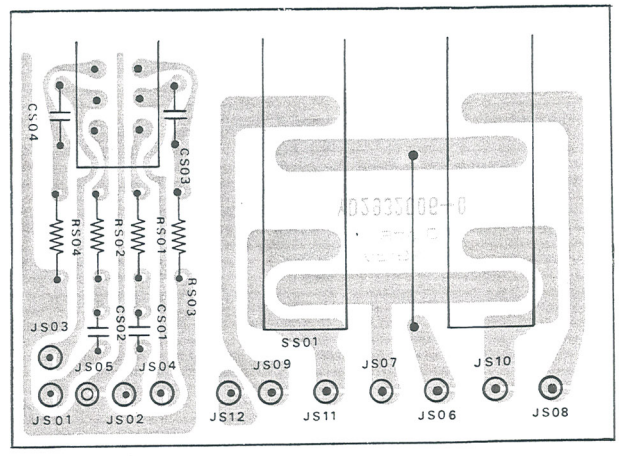

Figure 14. Speaker Switch and Loudness Assembly PS00 Component Locations

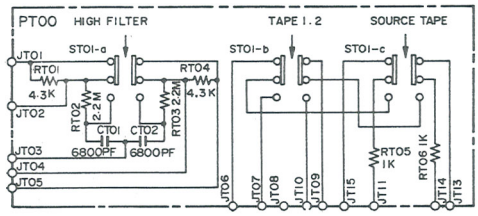

Figure 15. PT00-Circuit Diagram

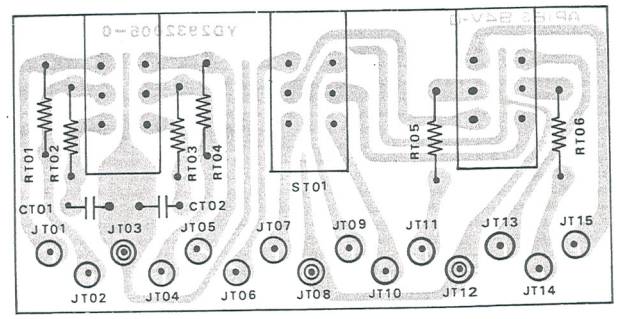

Figure 16. Tape Monitor and High Filter Assembly PT00 Component Locations

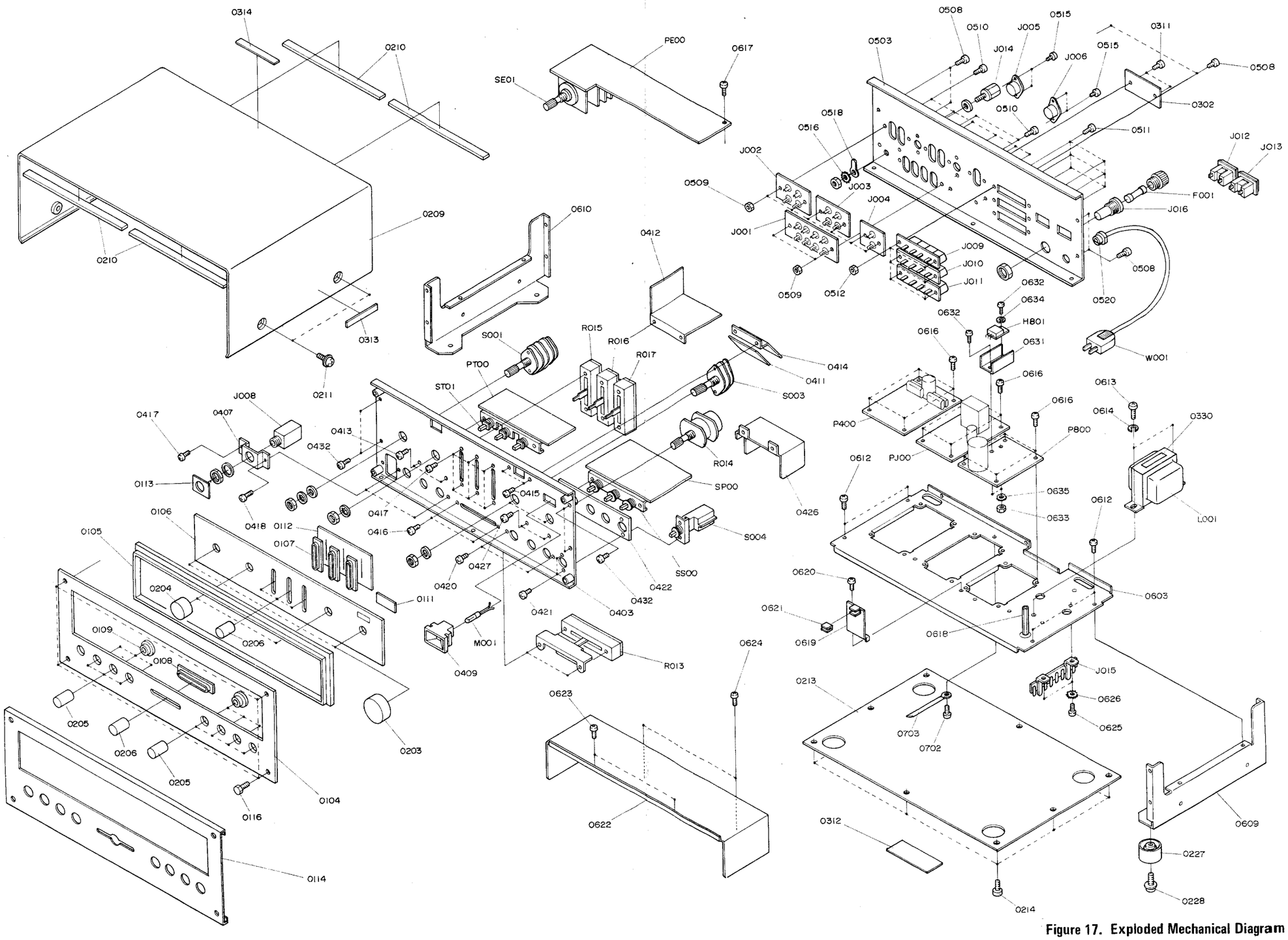

Figure 17. Exploded Mechanical Diagram

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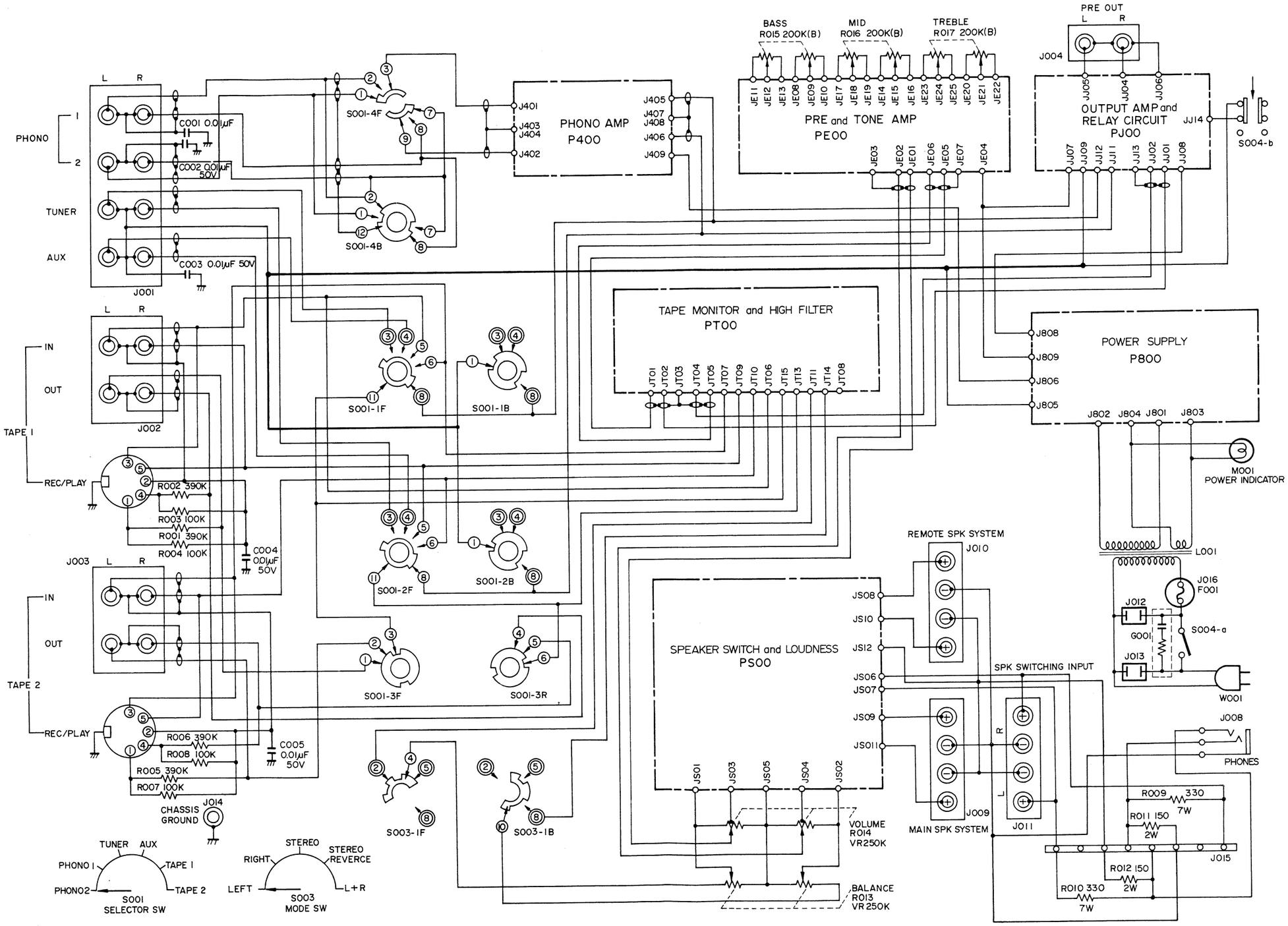
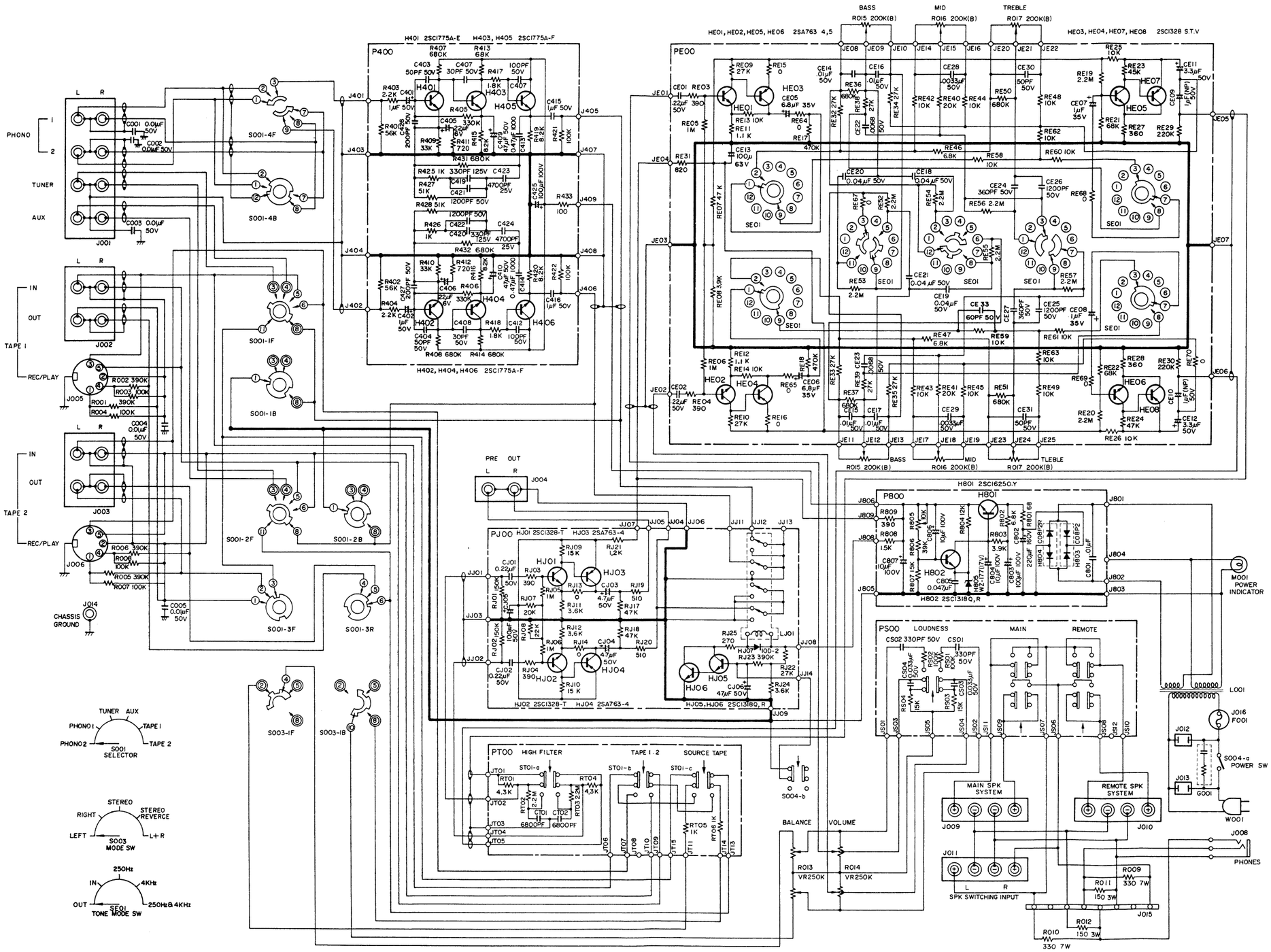


Figure 18. Schematic Diagram for U.S.A. Model



MODEL 3200 **NOTE: This circuit diagram applies to units manufactured for the U.S.A. Market.**

Figure 19. Circuit Diagram for U.S.A. Model

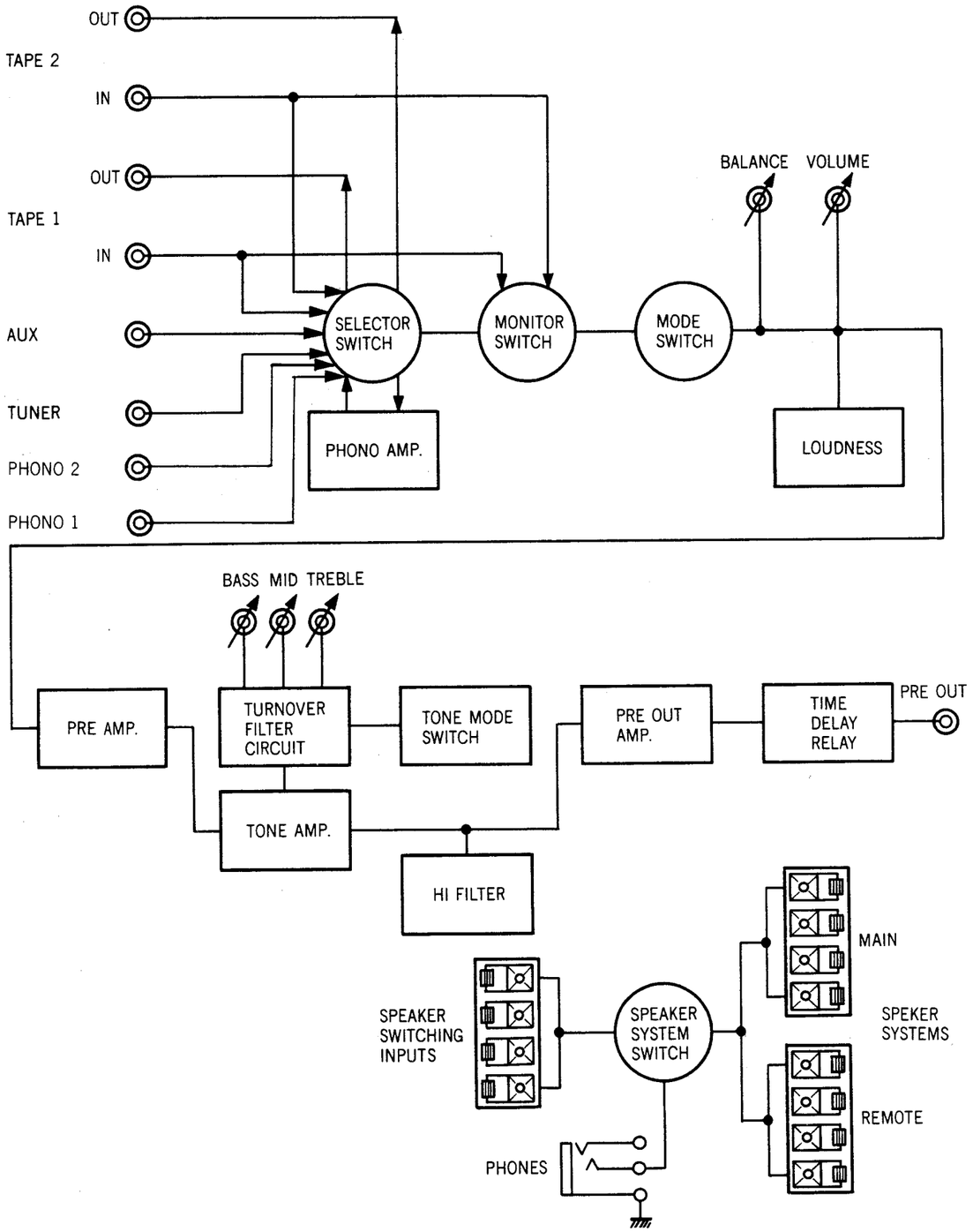


Figure 20. Block Diagram

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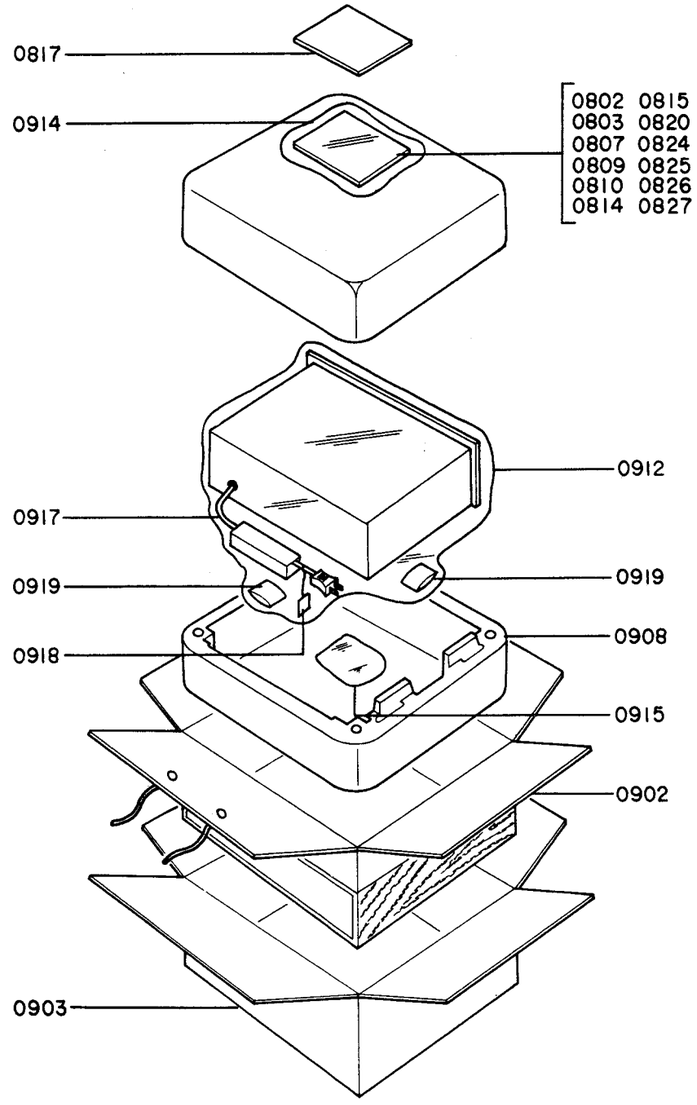

Figure 21. Packing

U: For U.S.A.
C: For Canada
E: For Europe

4. PARTS LIST

REF. DESIG.	QTY. U	C	E	PART NO.	DESCRIPTION
A	1	1	1	293206340	Front Panel Assembly
0104	1	1	1	293206301	Escutcheon
0105	1	1	1	291240101	Frame
0106	1	1	1	293215801	Window
0107	3	3	3	285025901	Bush
0108	1	1	1	285425901	Bush
0109	7	7	7	288625901	Bush
0111	1	1	1	291205303	Cover
0112	1	1	1	292630301	Mask
0113	1	1	1	289610701	Sheet
0114	1	1	1	291205301	Cover
B	1	1	1	293225740	Top Lid Assembly
0209	1	1	1	293225701	Lid
0210	4	4	4	257711807	Spacer
C			1	293216040	Rear Panel Assembly
0504			1	293216022	Bracket
0521			1	282125901	Bush
0525			2	55060305S	T.R. Rivet
0116	4	4	4	52017039J	H. Head Volt
0203	2	2	2	282815401	Knob, Selector/Volume
0204	2	2	2	282815402	Knob, Tone/Mode
0205	7	7	7	281815401	Knob, Power Switch/Pushswitch
0206	4	4	4	285015401	Knob, Slide Volume
0211	4	4	4	51480406S	B.H.M.Screw, B4 x 6
0213	1	1	1	293225702	Lid
0214	8	8	8	51100406S	B.H.M.Screw, B4 x 6
0227	4	4	4	293205701	Leg
0228	4	4	4	51440410S	B.H.M. Screw, B4 x 10
0302	1			293226501	Indicator
0303		1		293226502	Indicator
0304			1	293226503	Indicator
0311	2	2	2	51100305S	B.H.M. Screw, B3 x 5
0312	1	1	1	257886101	Label, Caution
0313	1	1	1	257886102	Label, Do not remove cover.
0314	1	1	1	257886103	Label, See marking on bottom.
0319		1		951091101	Label, LL No.
0320		1		282186102	Label, Fuse Caution
0321	1			951091102	Label, UL Factory No.
0324	1			951110104	Label, UL
0330	1	1	1	290886101	Label, on Power Transf.
0331		1		951022101	Label, Fuse Caution
0403	1	1	1	293216050	Bracket K
0407	1	1	1	293216005	Bracket
0408	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0409	1	1	1	291225901	Bush
0411	1	1	1	389612003	Insulator
0412	1	1	1	293710901	Shield
0413	2	2	2	51100306A	B.H.M.Screw, B3 x 6
0414	1	1	1	293710902	Shield
0415	2	2	2	51100306A	B.H.M. Screw, B3 x 6
0416	2	2	2	51100305A	B.H.M. Screw, B3 x 5
0417	6	6	6	51102605A	B.H.M. Screw, B2.6 x 5
0418	2	2	2	51100306A	B.H.M. Screw, B3 x 6

REF. DESIG.	QTY. U	C	E	PART NO.	DESCRIPTION
0420	2	2	2	51100306A	B.H.M. Screw, B3 x 6
0421	2	2	2	51100306A	B.H.M. Screw, B3 x 6
0422	1	1	1	293216004	Bracket
0426	1	1	1	293210901	Shield
0427	2	2	2	51100306A	B.H.M. Screw, B3x 6
0432	4	4	4	51100306A	B.H.M. Screw, B3 x 6
0503	1	1		293216021	Bracket
0504			1	293216022	Bracket
0508	6	6	6	51100306S	B.H.M. Screw, B3 x 6
0509	8	8	8	53110303A	Hexagon Nut
0510	8	8	8	51100306S	B.H.M. Screw, B3 x 6
0511	6	6	6	51100306S	B.H.M. Screw, B3 x 6
0512	6	6	6	53110303A	Hexagon Nut
0515	4	4	4	51570306B	P.H. Tapped Screw, P3 x 6ST
0516	1	1	1	54050400R	T.L. Washer OR
0518	1	1	1	62041760W	Lug
0520	1	1		145525903	Bush, AC Cord
0522			2	53110303A	Hexagon Nut
0523			2	54050300R	T.L. Washer OR
0524			2	51060316A	P.H.M. Screw, P3 x 16
0531			2	51100306S	B.H.M. Screw, B3 x 6
0603	1	1	1	293210501	Chassis
0609	1	1	1	293216001	Bracket
0610	1	1	1	293216002	Bracket
0612	4	4	4	51100306B	B.H.M. Screw, B3 x 6
0613	2	2	2	51570408B	P.H. Tapped Screw, P4 x 8ST
0614	2	2	2	54040402A	Spring Washer
0616	12	12	12	51570306S	P.H. Tapped Screw, P3 x 6ST
0617	1	1	1	51100306S	B.H.M. Screw, B3 x 6
0618	1	1	1	289010103	Support
0619	1	1	1	293216003	Bracket
0620	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0621	1	1	1	288612009	Insulator
0622	1	1	1	293210902	Shield
0623	2	2	2	51100306S	B.H.M. Screw, B3 x 6
0624	2	2	2	51570306S	P.H. Tapped Screw, P3 x 6ST
0625	2	2	2	51570306B	P.H. Tapped Screw, P3 x 6ST
0626	2	2	2	54050300R	T.L. Washer OR
0627			1	293216006	Bracket
0628			2	51570306B	P.H. Tapped Screw, P3 x 6ST
0629			2	51062606B	P.H.M. Screw, P2.6 x 6
0631	1	1	1	281826703	Heat-Sink
0632	2	2	2	51100308B	B.H.M. Screw, B3 x 8
0633	2	2	2	53110301E	Hexagon Nut
0634	2	2	2	54050300R	T.L. Washer OR
0635	2	2	2	54040302N	Spring Washer
0702	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0703	1	1	1	138200503	Clamper
0705	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0706	1	1	1	138200503	Clamper
0707	1	1	1	62030039W	Lug
0708	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0709			1	293212001	Insulator
0802	1			293285101	Instructions, Set
0803		1	1	293285121	Instructions, Set
0807		1		288685110	Instructions, Leaflet
0809	1	1		293285601	Schematic Diagram
0810			1	293285602	Schematic Diagram

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	QTY. U	C	E	PART NO.	DESCRIPTION
0814	1		1	288585108	Instructions, Accessories
0815		1		293285104	Instructions, Accessories
0817	1	1	1	281885104	Instructions, Packing
0820	1	1	1	293285107	Instructions, Mounting Template
0824	1		1	257785401	Guarantee Card
0825	1		1	257785102	Instructions, "Important"
0826	1			257781301	Envelope
0902	1	1	1	293280101	Packing Case, Inner
0903	1	1	1	293280102	Packing Case, Outer
0908	2	2	2	293280301	Cushion
0912	1	1	1	901383517	Polyethylene Bag, Set
0914	1	1	1	901302501	Polyethylene Bag, Printed Matter
0915	1	1	1	901302501	Polyethylene Bag, Accessories
0917	1	1	1	102980401	Sleeve
0918			1	956000004	Hang Tag
0919	2	2	2	273182101	Silicagel
0922	4			952281501	Serial No. Card
0923		4		952301512	Serial No. Card
0924			4	952301511	Serial No. Card
					PHONO AMP. CIRCUIT BOARD-P400
P400	1	1	1	YD2932001	P.W.Board, Phono Amp. (Print Only)
	1	1	1	ZZ2932001	P.W. Board Assembly
					P400-RESISTORS
					All resistors are ±5% and ¼W, unless otherwise indicated
R401	1	1	1	RT0556314	56KΩ
R402	1	1	1	RT0556314	56KΩ
R403	1	1	1	RT0522214	2.2KΩ
R404	1	1	1	RT0522214	2.2KΩ
R405	1	1	1	RN0533414	330KΩ
R406	1	1	1	RN0533414	330KΩ
R407	1	1	1	RN0568414	680KΩ
R408	1	1	1	RN0568414	680KΩ
R409	1	1	1	RT0533314	33KΩ
R410	1	1	1	RT0533314	33KΩ
R411	1	1	1	RT0272114	720Ω ±2%, ¼W
R412	1	1	1	RT0272114	720Ω ±2%, ¼W
R413	1	1	1	RT0568314	68KΩ
R414	1	1	1	RT0568314	68KΩ
R415	1	1	1	RT0582214	8.2KΩ
R416	1	1	1	RT0582214	8.2KΩ
R417	1	1	1	RT0518214	1.8KΩ
R418	1	1	1	RT0518214	1.8KΩ
R419	1	1	1	RT0582214	8.2KΩ
R420	1	1	1	RT0582214	8.2KΩ
R421	1	1	1	RT0510414	100KΩ
R422	1	1	1	RT0510414	100KΩ
R425	1	1	1	RT0510214	1KΩ
R426	1	1	1	RT0510214	1KΩ
R427	1	1	1	RT0551314	51KΩ
R428	1	1	1	RT0551314	51KΩ
R431	1	1	1	RT0568414	680KΩ
R432	1	1	1	RT0568414	680KΩ
R433	1	1	1	RT0510114	100Ω
					P400-CAPACITORS
C401	1	1	1	EV2250356	Electrolytic, 2.2μF ±20%, 35V
C402	1	1	1	EV2250356	Electrolytic, 2.2μF ±20%, 35V
C403	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
C404	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
C405	1	1	1	EV2260066	Electrolytic, 22μF, 6V
C406	1	1	1	EV2260066	Electrolytic, 22μF, 6V
C407	1	1	1	DD1630001	Ceramic, 30PF ±10%, 50V
C408	1	1	1	DD1630001	Ceramic, 30PF ±10%, 50V
C409	1	1	1	EA4760509	Electrolytic, 47μF+100%,-10%,50V
C410	1	1	1	EA4760509	Electrolytic, 47μF+100%,-10%,50V
C411	1	1	1	DD1610101	Ceramic, 100PF±10%, 50V
C412	1	1	1	DD1610101	Ceramic, 100PF±10%, 50V
C413	1	1	1	DF1747403	Film, 0.47μF±20%, 100V
C414	1	1	1	DF1747403	Film, 0.47μF±20%, 100V
C415	1	1	1	DF1710552	Film, 1μF±20%, 50V
C416	1	1	1	DF1710552	Film, 1μF±20%, 50V
C419	1	1	1	DF6533151	Film, 330PF±5%, 125V
C420	1	1	1	DF6533151	Film, 330PF±5%, 125V
C421	1	1	1	DF5412201	Film, 1200PF±2%, 50V
C422	1	1	1	DF5412201	Film, 1200PF±2%, 50V
C423	1	1	1	DF5547201	Film, 4700PF±5%, 25V
C424	1	1	1	DF5547201	Film, 4700PF±5%, 25V
C425	1	1	1	EA1071001	Electrolytic, 100μF+100%,-10%,100V
C426	1	1	1	DD1620101	Ceramic, 200pF±10%, 50V
C427	1	1	1	DD1620101	Ceramic, 200PF±10%, 50V
					P400-SEMICONDUCTORS & PLUGS
H401	1	1	1	HT317751F	Transistor, 2SC1775A-F
H402	1	1	1	HT317751F	Transistor, 2SC1775A-F
H403	1	1	1	HT317751F	Transistor, 2SC1775A-F
H404	1	1	1	HT317751F	Transistor, 2SC1775A-F
H405	1	1	1	HT317751F	Transistor, 2SC1775A-F
H406	1	1	1	HT317751F	Transistor, 2SC1775A-F
J401 ~ J409	1	1	1	YP1000113	Plug
					PRE/TONE AMP.CIRCUIT BOARD-PE00
PE00	1	1	1	YD2932002	P.W. Board, Pre/Tone Amp.(Print Only)
	1	1	1	ZZ2932002	P.W. Board Assembly
					PE00-RESISTORS
					All resistors are ±5% and ¼W, unless otherwise indicated.
RE03	1	1	1	RT0539114	390Ω
RE04	1	1	1	RT0539114	390Ω
RE05	1	1	1	RN0510514	1MΩ
RE06	1	1	1	RN0510514	1MΩ
RE07	1	1	1	RN0547314	47KΩ
RE08	1	1	1	RN0539214	3.9KΩ
RE09	1	1	1	RT0527314	27KΩ
RE10	1	1	1	RT0527314	27KΩ
RE11	1	1	1	RT0511214	1.1KΩ
RE12	1	1	1	RT0511214	1.1KΩ
RE13	1	1	1	RT0510314	10KΩ
RE14	1	1	1	RT0510314	10KΩ
RE15	1	1	1	RC0000012	0Ω
RE16	1	1	1	RC0000012	0Ω
RE17	1	1	1	RT0547414	470KΩ
RE18	1	1	1	RT0547414	470KΩ
RE19	1	1	1	RN0522514	2.2MΩ
RE20	1	1	1	RN0522514	2.2MΩ
RE21	1	1	1	RT0568314	68KΩ
RE22	1	1	1	RT0568314	68KΩ

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	QTY. U	C	E	PART NO.	DESCRIPTION
RE23	1	1	1	RT0547314	47KΩ
RE24	1	1	1	RT0547314	47KΩ
RE25	1	1	1	RT0510314	10KΩ
RE26	1	1	1	RT0510314	10KΩ
RE27	1	1	1	RT0536114	360Ω
RE28	1	1	1	RT0536114	360Ω
RE29	1	1	1	RT0522414	220KΩ
RE30	1	1	1	RT0522414	220KΩ
RE31	1	1	1	RT0582114	820Ω
RE32	1	1	1	RT0527314	27KΩ
RE33	1	1	1	RT0527314	27KΩ
RE34	1	1	1	RT0527314	27KΩ
RE35	1	1	1	RT0527314	27KΩ
RE36	1	1	1	RT0582414	820KΩ
RE37	1	1	1	RT0582414	820KΩ
RE38	1	1	1	RT0527314	27KΩ
RE39	1	1	1	RT0527314	27KΩ
RE40	1	1	1	RT0520314	20KΩ
RE41	1	1	1	RT0520314	20KΩ
RE42	1	1	1	RT0510314	10KΩ
RE43	1	1	1	RT0510314	10KΩ
RE44	1	1	1	RT0510314	10KΩ
RE45	1	1	1	RT0510314	10KΩ
RE46	1	1	1	RT0568214	6.8KΩ
RE47	1	1	1	RT0568214	6.8KΩ
RE48	1	1	1	RT0510314	10KΩ
RE49	1	1	1	RT0510314	10KΩ
RE50	1	1	1	RT0539414	390KΩ
RE51	1	1	1	RT0539414	390KΩ
RE52	1	1	1	RT0522514	2.2MΩ
RE53	1	1	1	RT0522514	2.2MΩ
RE54	1	1	1	RT0522514	2.2MΩ
RE55	1	1	1	RT0522514	2.2MΩ
RE56	1	1	1	RT0522514	2.2MΩ
RE57	1	1	1	RT0522514	2.2MΩ
RE58	1	1	1	RT0210314	10KΩ ±2%, ¼W
RE59	1	1	1	RT0210314	10KΩ ±2%, ¼W
RE60	1	1	1	RT0210314	10KΩ ±2%, ¼W
RE61	1	1	1	RT0210314	10KΩ ±2%, ¼W
RE62	1	1	1	RT0210314	10KΩ ±2%, ¼W
RE63	1	1	1	RT0210314	10KΩ ±2%, ¼W
RE64	1	1	1	RC0000012	0Ω, ½W
RE65	1	1	1	RC0000012	0Ω, ½W
RE66	1	1	1	RC0000012	0Ω, ½W
RE67	1	1	1	RC0000012	0Ω, ½W
RE68	1	1	1	RC0000012	0Ω, ½W
RE69	1	1	1	RC0000012	0Ω, ½W
RE70	1	1	1	RC0000012	0Ω, ½W
					PE00-CAPACITORS
CE01	1	1	1	DF1722401	Film,0.22μF ±20%, 50V
CE02	1	1	1	DF1722401	Film,0.22μF ±20%, 50V
CE05	1	1	1	EV6850356	Electrolytic, 6.8μF ±20%, 35V
CE06	1	1	1	EV6850356	Electrolytic, 6.8μF ±20%, 35V
CE07	1	1	1	EV1050356	Electrolytic, 1μF ±20%, 35V
CE08	1	1	1	EV1050356	Electrolytic, 1μF ±20%, 35V
CE09	1	1	1	EQ4750161	Electrolytic, 4.7μF ±30%, 16V
CE10	1	1	1	EQ4750161	Electrolytic, 4.7μF ±30%, 16V
CE11	1	1	1	EV3350356	Electrolytic, 3.3μF ±20%, 35V
CE12	1	1	1	EV3350356	Electrolytic, 3.3μF ±20%, 35V
CE13	1	1	1	EA1070631	Electrolytic, 100μF +100%, -0%, 63V
CE14	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V
CE15	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V
CE16	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V
CE17	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V
CE18	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
CE19	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
CE20	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
CE21	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
CE22	1	1	1	DF1568205	Film, 0.0068μF ±5%, 50V
CE23	1	1	1	DF1568205	Film, 0.0068μF ±5%, 50V
CE24	1	1	1	DF1512201	Film, 1200PF ±5%, 50V
CE25	1	1	1	DD1530102	Ceramic, 300PF ±5%, 50V
CE26	1	1	1	DD1530102	Ceramic, 300PF ±5%, 50V
CE27	1	1	1	DF1512201	Film, 1200PF ±5%, 50V
CE28	1	1	1	DF1633201	Film, 0.0033μF ±10%, 50V
CE29	1	1	1	DF1633201	Film, 0.0033μF ±10%, 50V
CE30	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
CE31	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
					PE00-SEMICONDUCTORS
HE01	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
HE02	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
HE03	1	1	1	HT107632A	Transistor, 2SA763 4.5
HE04	1	1	1	HT107632A	Transistor, 2SA763 4.5
HE05	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
HE06	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
HE07	1	1	1	HT107632A	Transistor, 2SA763 4.5
HE08	1	1	1	HT107632A	Transistor, 2SA763 4.5
					PE01-MISCELLANEOUS
SE01	1	1	1	SR1005009	Rotary Switch
JE01 ~ JE25	1	1	1	YP1000113	Plug
					OUTPUT AMP./RELAY CIRCUIT BOARD-PJ00
PJ00	1	1	1	YD2932003	P.W. Board, Output Amp./Relay
	1	1	1	ZZ2932003	P.W. Board Assembly (Print Only)
					RJ00-RESISTORS **All resistors are ±5% and ¼W, unless otherwise indicated.**
RJ01	1	1	1	RT0515414	150KΩ
RJ02	1	1	1	RT0515414	150KΩ
RJ03	1	1	1	RT0539114	390KΩ
RJ04	1	1	1	RT0539114	390KΩ
RJ05	1	1	1	RN0510514	1MΩ
RJ06	1	1	1	RN0510514	1MΩ
RJ07	1	1	1	RN0520314	20KΩ
RJ08	1	1	1	RN0522314	22KΩ
RJ09	1	1	1	RN0515314	15KΩ
RJ10	1	1	1	RN0515314	15KΩ
RJ11	1	1	1	RT0536214	3.6KΩ
RJ12	1	1	1	RT0536214	3.6KΩ
RJ13	1	1	1	RC0000012	0Ω
RJ14	1	1	1	RC0000012	0Ω
RJ17	1	1	1	RT0547314	47KΩ
RJ18	1	1	1	RT0547314	47KΩ
RJ19	1	1	1	RT0551114	510Ω
RJ20	1	1	1	RT0551114	510Ω
RJ21	1	1	1	GU0512212	1.2KΩ
RJ22	1	1	1	RT0527314	27KΩ
RJ23	1	1	1	RT0539414	390KΩ
RJ24	1	1	1	RT0536214	3.6KΩ
RJ25	1	1	1	GF0527112	270Ω ±5%, ½W
					PJ00-CAPACITORS
CJ01	1	1	1	DF1722405	Film, 0.22μF ±20%, 50V
CJ02	1	1	1	DF1722405	Film, 0.22μF ±20%, 50V
CJ03	1	1	1	EE4750504	Electrolytic, 4.7μF ±20%, 50V
CJ04	1	1	1	EE4750504	Electrolytic, 4.7μF ±20%, 50V
CJ05	1	1	1	EA1070509	Electrolytic, 100μF +100%, -10%, 50V
CJ06	1	1	1	EA4760509	Electrolytic, 47μF +100%, -10%, 50V
					PJ00-SEMICONDUCTORS
HJ01	1	1	1	HT313281T	Transistor, 2SC1328-T
HJ02	1	1	1	HT313281T	Transistor, 2SC1328-T
HJ03	1	1	1	HT107631B	Transistor, 2SA763-4
HJ04	1	1	1	HT107631B	Transistor, 2SA763-4
HJ05	1	1	1	HT313182Q	Transistor, 2SC1318 Q,R
HJ06	1	1	1	HT313182Q	Transistor, 2SC1318 Q, R
HJ07	1	1	1	HD2000110	Diode, 10D-2
					PJ00-MISCELLANEOUS
LJ01	1	1	1	LY4048002	Relay, 48V
JJ01 ~ JJ09	1	1	1	YP1000113	Plug
JJ11 ~ JJ14	1	1	1	YP1000113	Plug
					POWER SUPPLY CIRCUIT BOARD-P800
P800	1	1	1	YD2932004	P.W. Board, Power Supply (Print Only)
	1	1	1	ZZ2932004	P.W. Board Assembly
					P800-RESISTORS
R801	1	1	1	GF0568014	68Ω ±5%, ¼W
R802	1	1	1	RT0568214	6.8KΩ ±5%, ¼W
R803	1	1	1	RT0539214	3.9KΩ ±5%, ¼W
R804	1	1	1	GF0512312	12KΩ ±5%, ½W
R805	1	1	1	RA0103020	Trimming, 10KΩ
R806	1	1	1	RT0539314	39KΩ ±5%, ¼W
R807	1	1	1	RT0515314	15KΩ ±5%, ¼W
R808	1	1	1	GF0515212	1.5KΩ ±5%, ½W
R809	1	1	1	GF0539112	390Ω ±5%, ½W
					P800-CAPACITORS
C801	1	1	1	DK1810351	Ceramic, 0.01μF ±30%
C802	1	1	1	EB2271601	Electrolytic, 220μF, 160V
C803	1	1	1	EA1071001	Electrolytic, 100μF, 100V
C804	1	1	1	EA1061001	Electrolytic, 10μF, 100V
C805	1	1	1	DF1747305	Film, 0.047μF, ±20%
C806	1	1	1	EA1061001	Electrolytic, 10μF, 100V
C807	1	1	1	EA1061001	Electrolytic, 10μF, 100V
					P800-SEMICONDUCTORS & PLUGS
H801	1	1	1	HT316252A	Transistor, 2SC1625 O,Y
H802	1	1	1	HT313182Q	Transistor, 2SC1318 Q,R
H803	1	1	1	HD2001810	Diode, C08P2 Black
H804	1	1	1	HD2001910	Diode, C08P2R Green
H805	1	1	1	HD3003009	Diode, WZ-177 (17V)
J801 ~ J806	1	1	1	YP1000114	Plug
J808	1	1	1	YP1000114	Plug
J809	1	1	1	YP1000114	Plug
					SPEAKER SWITCH/LOUDNESS CIRCUIT BOARD-PS00
PS00	1	1	1	YD2932006	P.W. Board, Speaker Switch/Loudness (Print Only)
	1	1	1	ZZ2932006	P.W. Board Assembly
					PS00-RESISTORS & CAPACITORS
RS01	1	1	1	RT0510414	Resistor, 100KΩ ±5%, ¼W
RS02	1	1	1	RT0510414	Resistor, 100KΩ ±5%, ¼W
RS03	1	1	1	RT0515314	Resistor, 15KΩ ±5%, ¼W
RS04	1	1	1	RT0515314	Resistor, 15KΩ ±5%, ¼W
CS01	1	1	1	DD1533101	Ceramic Cap., 330PF±10%, 50V
CS02	1	1	1	DD1533101	Ceramic Cap., 330PF±10%, 50V
CS03	1	1	1	DF1633305	Film Cap., 0.033μF±10%,50V
CS04	1	1	1	DF1633305	Film Cap., 0.033μF±10%,50V
					PS00-MISCELLANEOUS
SS01	1	1	1	SP0403010	Pushswitch, Loudness/Speaker
JS01 ~ JS12	1	1	1	YP1000113	Plug
					TAPE MONITOR/HI FILTER CIRCUIT BOARD-PT00
PT00	1	1	1	YD2932005	P.W. Board, Tape Monitor/Hi Filter (Print Only)
	1	1	1	ZZ2932005	P.W. Board Assembly
					PT00-RESISTORS
RT01	1	1	1	RT0543214	4.3KΩ ±5%, ¼W
RT02	1	1	1	RT0522514	2.2MΩ ±5%, ¼W
RT03	1	1	1	RT0522514	2.2MΩ ±5%, ¼W
RT04	1	1	1	RT0543214	4.3KΩ ±5%, ¼W
RT05	1	1	1	RT0510214	1KΩ ±5%, ¼W
RT06	1	1	1	RT0510214	1KΩ ±5%, ¼W
					PT00-MISCELLANEOUS
CT01	1	1	1	DF1568205	Film Cap., 0.0068μF±5%
CT02	1	1	1	DF1568205	Film Cap., 0.0068μF±5%
ST01	1	1	1	SP0203005	Pushswitch
JT01 ~ JT15	1	1	1	YP1000113	Plug
					GENERAL RESISTORS
R001	1	1	1	RT0539414	390KΩ ±5%, ¼W
R002	1	1	1	RT0539414	390KΩ ±5%, ¼W
R003	1	1	1	RT0510414	100KΩ ±5%, ¼W
R004	1	1	1	RT0510414	100KΩ ±5%, ¼W
R005	1	1	1	RT0539414	390KΩ ±5%, ¼W
R006	1	1	1	RT0539414	390KΩ ±5%, ¼W
R007	1	1	1	RT0510414	100KΩ ±5%, ¼W
R008	1	1	1	RT0510414	100KΩ ±5%, ¼W
R009	1	1	1	GS1033107	330Ω ±10%, 7W
R010	1	1	1	GS1033107	330Ω ±10%, 7W

U: For U.S.A.
C: For Canada
E: For Europe

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	QTY. U	C	E	PART NO.	DESCRIPTION
R011	1	1	1	GJ0515102	150Ω ±10%, 2W
R012	1	1	1	GJ0515102	150Ω ±10%, 2W
R013	1	1	1	RS0254006	Variable, 250KΩ, Balance
R014	1	1	1	RM0254028	Variable, 250KΩ, Master Volume
R015	1	1	1	RS0204001	Variable, 200KΩ(B), Bass
R016	1	1	1	RS0204001	Variable, 200KΩ(B), Mid
R017	1	1	1	RS0204001	Variable, 200KΩ(B), Treble
					GENERAL CAPACITORS
C001	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C002	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C003	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C004	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C005	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C006			1	DF1722380	Film, 0.022μF ±20%
					GENERAL MISCELLANEOUS
G001	1	1		BF1040003	Printed Comp.
M001	1	1	1	IN1008030	Lamp, Pilot (8V)
F001	1	1		FS1005009	Fuse, 0.5A, UL
F001			1	FS1005090	Fuse, 0.5A, DIN
S001	1	1	1	SR0706001	Rotary Switch, Selector
S003	1	1	1	SR0205008	Pushswitch, Mode
S004	1	1	1	SP0402012	Pushswitch, Power
L001	1	1		TS1570112	Power Transf.
L001			1	TS1570113	Power Transf.
J001	1	1	1	YT0208006	Terminal, Phono/Aux/Tuner
J002	1	1	1	YT0204008	Terminal, Tape 1 In/Out
J003	1	1	1	YT0204008	Terminal, Tape 2 In/Out
J004	1	1	1	YT0202011	Terminal, Pre Out
J005	1	1	1	YJ1100016	Socket, Tape 1, DIN
J006	1	1	1	YJ1100016	Socket, Tape 2, DIN
J008	1	1	1	YJ0100098	Jack, Phone
J009	1	1	1	YT0304012	Tarminal, Speaker
J010	1	1	1	YT0304012	Terminal, Speaker
J011	1	1	1	YT0304012	Terminal, Speaker Switching
J012	1	1	1	YJ0400056	Socket, AC Outlet
J013	1	1	1	YJ0400056	Socket, AC Outlet
J014	1	1	1	YT0101005	Terminal, Chassis Ground
J015	1	1	1	YL0108001	Terminal, 8P (UL)
J016	1	1		YJ0800012	Socket, Fuse Holder
J017			1	BY0314001	Terminal, Voltage Conversion
J016			1	YJ0800022	Fuse Holder, DIN
J018			1	YJ0800009	Socket, Fuse Holder (DIN)
J019			1	YJ0800009	Socket, Fuse Holder (DIN)
J020		1		YL0102003	Terminal, 2P
F002		1		FS2005003	Fuse, 0.5A
F003			1	FS1005090	Fuse, 0.5A
F004			1	FS1005090	Fuse, 0.5A
	1	1	1	293285501	Service Manual

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5. TECHNICAL SPECIFICATIONS

Input Sensitivity for 1.5V Output at 1kHz	PHONO: (1.5–2.3) mV
	AUX: (150–230) mV
	TAPE: (150–230) mV
Total Harmonic Distortion (20Hz~20kHz)	≤0.1% at 3V
	≤1.0% at 7V
Intermodulation Distortion	≤0.1% at 3V
Frequency Response at ±1.0dB	AUX: ≥(20~70) kHz
	PHONO: ≥(30~15) kHz
Phono Overload Input Voltage for 1.0% THD	≥200mV at 1kHz
Phono Dynamic Range	≥90dB
Tone Control Action	BASS: 10dB at 100Hz
	TREBLE: 10dB at 10kHz
	MID: 7dB at 700Hz
Hum & Noise	Maximum Volume: ≤0.3mV
	Minimum Volume: ≤0.08mV
Equivalent Input Noise (PHONO)	≤2.5μV
Input Impedance at 1kHz	PHONO: 47KΩ
	AUX: 47KΩ
Output Impedance at 1kHz	600Ω
Power Requirements	120V, 50/60Hz
Power Consumption	(9±2)W
Dimensions	
Panel Width	14-3/4 inches
Height	4-3/4 inches
Depth	9-1/16 inches
Weight-Unit Alone	11.8 lbs
-Packed for Shipment	16.0 lbs

SERVICE INFORMATION FOR EUROPEAN MODEL

The information contained herein includes the rear panel and main chassis component locations, voltage conversion, circuit diagram and technical specifications. For the alignment procedures, test equipments, and repairing hints, refer to the original service manual.

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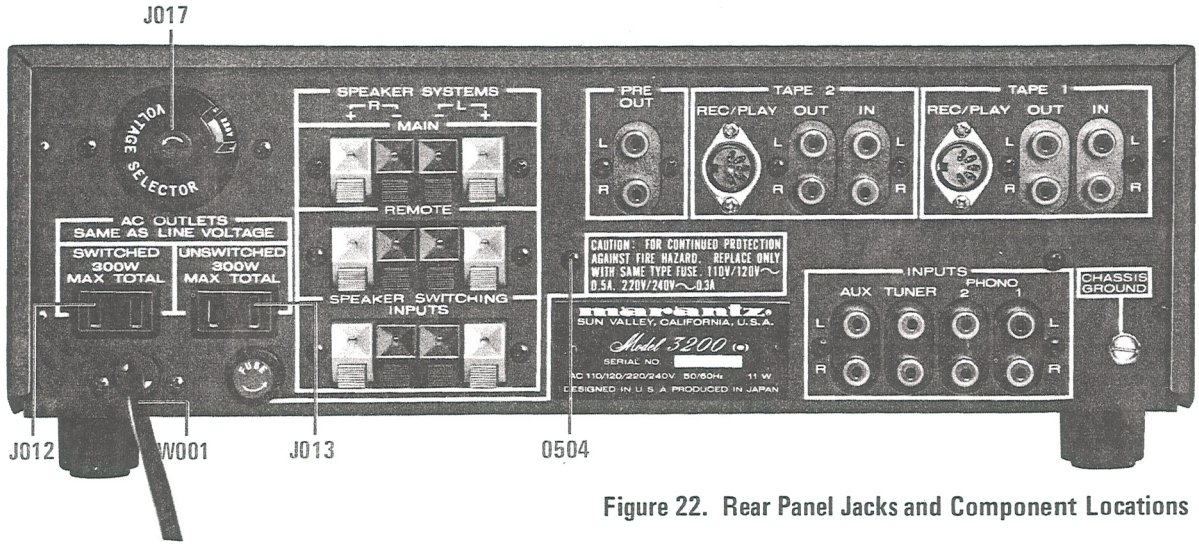


Figure 22. Rear Panel Jacks and Component Locations

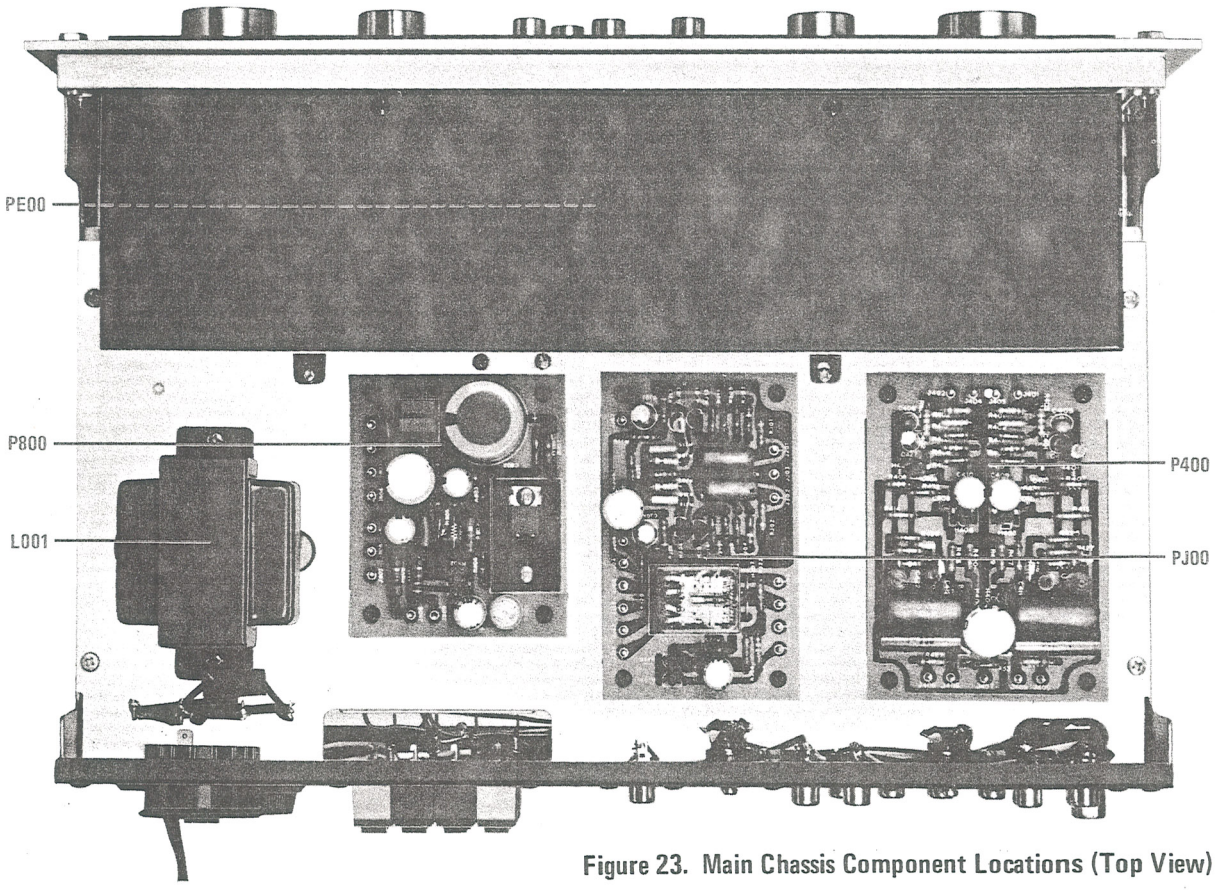


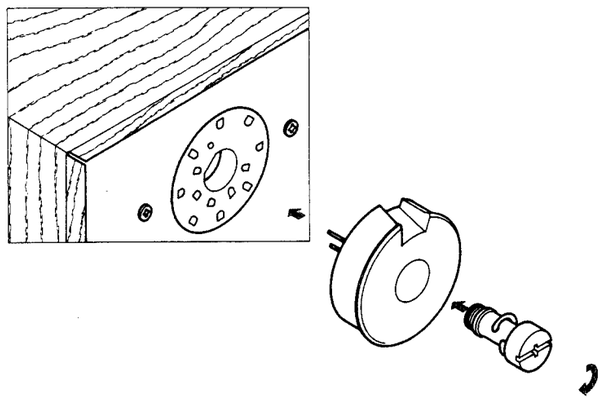
Figure 23. Main Chassis Component Locations (Top View)

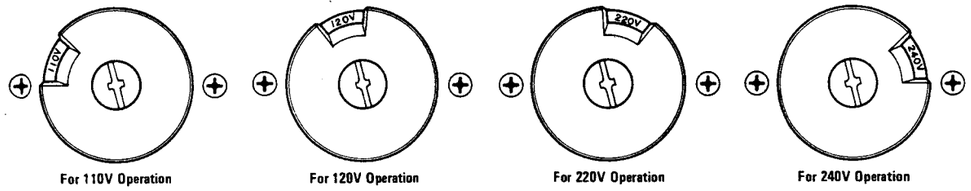
VOLTAGE CONVERSION

This Model is equipped with a universal power transformer to permit operation at either power source of 110, 120, 220 or 240 V AC, 50/60 Hz.

To convert the unit to a different power source voltage, change the plug as illustrated in Figure 24.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.





For 110V Operation | For 120V Operation | For 220V Operation | For 240V Operation

Figure 24. Voltage Conversion Chart

NOTE

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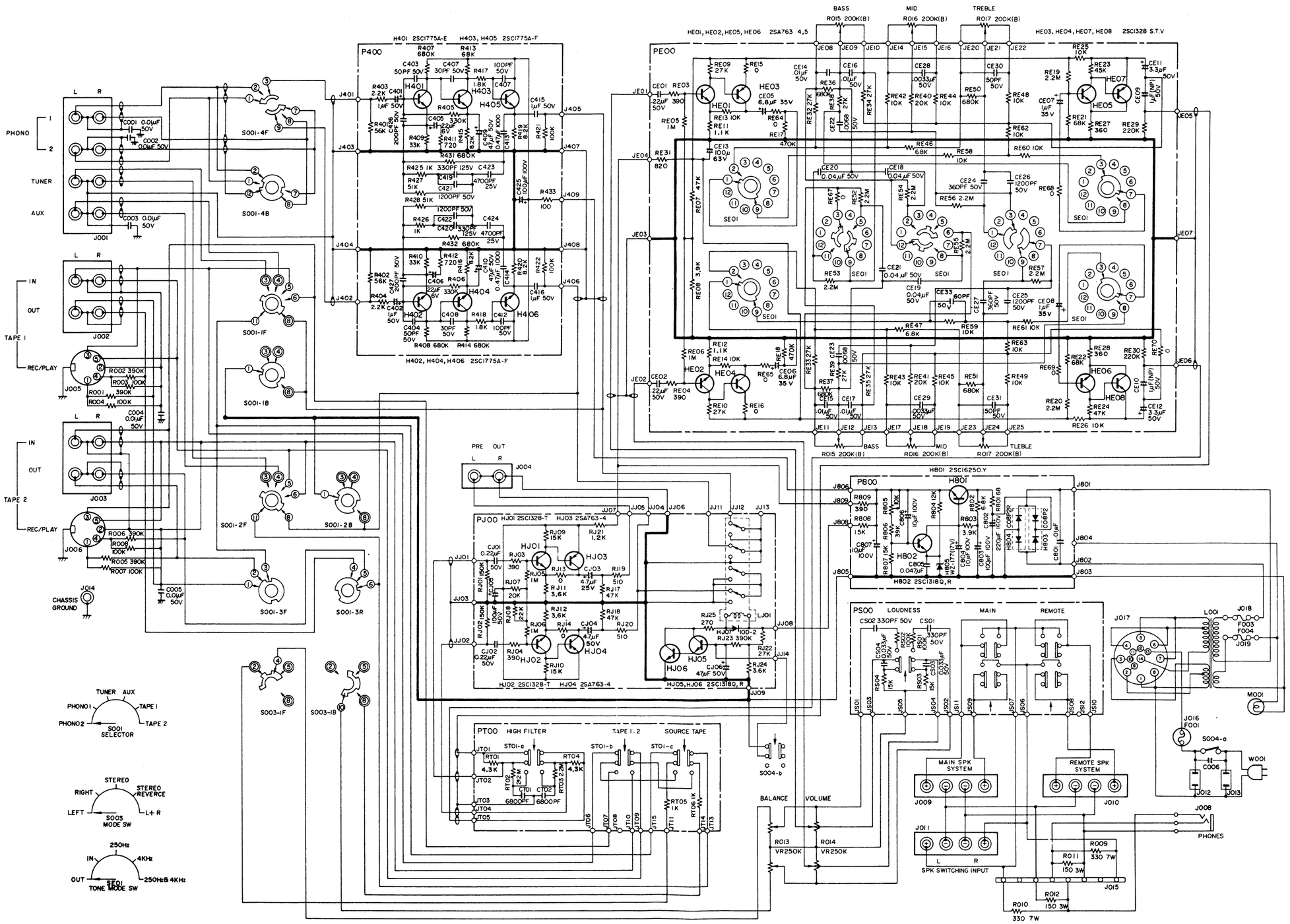

MODEL 3200 **NOTE: This circuit diagram applies to units manufactured for the European Market.**

Figure 25. Circuit Diagram for European Model

TECHNICAL SPECIFICATIONS

Input Sensitivity for 1.5V Output at 1kHz	PHONO:	(1.5–2.3) mV
	AUX:	(150–230) mV
	TAPE:	(150–230) mV
Total Harmonic Distortion (20Hz~20kHz)		≤0.1% at 3V
		≤1.0% at 7V
Intermodulation Distortion		≤0.1% at 3V
Frequency Response at ±1.0dB	AUX:	≥(20~70) kHz
	PHONO:	≥(30~15) kHz
Phono Overload Input Voltage for 1.0% THD		≥200mV at 1kHz
Phono Dynamic Range		≥90dB
Tone Control Action	BASS:	10dB at 100Hz
	TREBLE:	10dB at 10kHz
	MID:	7dB at 700Hz
Hum & Noise	Maximum Volume:	≤0.3mV
	Minimum Volume:	≤0.08mV
Equivalent Input Noise (PHONO)		≤2.5μV
Input Impedance at 1kHz	PHONO:	47KΩ
	AUX:	47KΩ
Output Impedance at 1kHz		600Ω
Power Requirements		220V∿, 50/60Hz
Power Consumption		(9±2)W
Dimensions		
Panel Width		360 mm
Height		120 mm
Depth		280 mm
Weight-Unit Alone		5.25Kg
-Packed for Shipment		7.25Kg